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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,549	11/09/2001	Wolfgang F. Ruettinger	4794	4548

7590

11/12/2004

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EXAMINER
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LANGEL, WAYNE A

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



**UNITED STATES DEPARTMENT OF COMMERCE**  
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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO. <sup>A-3</sup>
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EXAMINER

ART UNIT

PAPER NUMBER

DATE MAILED:

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.                 | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.       |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____   |

**Part II SUMMARY OF ACTION**

1. ☒ Claims 1-23 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2. ☐ Claims \_\_\_\_\_ have been cancelled.

3. ☐ Claims \_\_\_\_\_ are allowed.

4. ☒ Claims 1-23 are rejected.

5. ☐ Claims \_\_\_\_\_ are objected to.

6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

**EXAMINER'S ACTION**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korotkikh et al in view of Mesters et al. Korotkikh et al disclose a catalyst for carrying out the water gas – shift reaction, wherein the catalyst comprises aluminum oxide, platinum, cerium oxide and a catalytic agent. (See col. 3, lines 12-23.) The difference between the catalyst disclosed by Korotkikh et al, and that recited in applicant's claims, is that Korotkikh et al do not disclose that the catalytic agent should be copper and be present in an amount of at least 5 wt.%. Mesters et al disclose that metallic copper will catalyze the water gas – shift reaction. (See the Abstract and col. 2, lines 34-68.) It would be prima facie obvious from Mesters et al to employ copper as the catalytic agent for the catalyst of Korotkikh et al since Korotkikh et al teach at col. 7, lines 48-51 that the catalytic agent can be any suitable material that catalyzes the water gas – shift reaction, and Mesters et al clearly disclose that copper would be such a material that would catalyze the water gas – shift reaction. It would be further obvious to employ the copper in an amount of at least 5 wt. %, since Mesters et al teach that the copper should be present in an amount of at least 1% by weight (see the Abstract), and it would be within the skill of one of ordinary skill in the art to determine a suitable or optimum amount of the catalyst to be employed.

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Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korotkikh et al in view of Mesters et al as applied to claims 1-21 above, and further in view of Chintawar et al. It would be further obvious from Chintawar et al to include a selective CO oxidation reactor downstream of the WGS reactor in the apparatus of Korotkikh et al, since Chintawar et al teach at col.2, lines 54-63 that PROX may be appropriate as a secondary, or clean up, process at suitably low CO levels.

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baumann et al '810 or Baumann et al '298 or Baumann et al '088. Baumann et al '810, Baumann et al '298 and Baumann et al '088 all disclose water gas – shift catalysts comprising platinum, copper, and cerium oxide on an alumina support. (See paragraph [0032] of Baumann et al '810; col. 4, lines 32-35 of Baumann et al '298; and col. 4, lines 50-53 of Baumann et al '088.) The difference between the catalysts disclosed by Baumann et al '810, Baumann et al '298 and Baumann et al '088, and that recited in applicant's claims, is that the references do not specifically disclose the various amounts of the catalytic components as recited in applicant's claims. It would be prima facie obvious to employ the specific amount of catalytic components as recited in applicant's claims in the catalysts of Baumann et al '810, Baumann et al '298 and Baumann et al '088, since it would be within the skill of one of ordinary skill in the art to determine suitable or optimum amounts of such components.

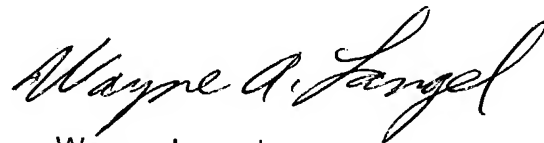
Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baumann et al '810 or Baumann et al '298 or Baumann et al '088 as applied to claims 1-21 above, and further in view of Chintawar et al. It would be further obvious

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from Chintawar et al to include a CO oxidation reactor downstream of the WGS reactor in the apparatus of Baumann et al '810 or Baumann et al '298 or Baumann et al '088, since Chintawar et al teach at col. 2, lines 54-63 that a PROX reactor may be appropriate as a secondary, or clean up, reactor at suitably low CO levels.

Schneider et al is made of record for disclosing a WGS catalyst.

Any inquiry concerning this communication should be directed to Wayne Langel at telephone number 571-272-1353.

A handwritten signature in black ink that reads "Wayne A. Langel". The signature is written in a cursive, flowing style with a large, prominent 'W' and 'L'.

Wayne Langel  
Primary Examiner  
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